The genus is well represented in North America in the more southerly and eastern parts, a few species extending into eastern Canada. As *P. vulgaris* is the type of the genus it is not without a certain prestige on that account. Its reaction to the new environment will be closely studied. Fortunately it brings with it no bad name as a weed.—G. A. HARDY, Provincial Museum, Victoria, British Columbia.

CYTOLOGICAL BASIS FOR SPECIFIC SEGREGATION IN THE SEDUM NEVII COMPLEX

J. T. BALDWIN, JR.[1]

WITH reference to *Sedum Nevii* Gray, Wherry (1935)[2] wrote: "The best evidence at present available indicates the real range . . . to be from central Georgia to Alabama, southernmost Illinois, easternmost West Virginia, and central Virginia."[3] Cytological study of plants of this complex from Alabama and from Virginia has revealed chromosomal differences of specific magnitude.

In early April of 1937 Dr. A. V. Beatty sent the writer flowering, living specimens of a sedum—supposedly of *S. Nevii*—from Pratt's Ferry Bridge, Bibb County, Alabama. They differed in appearance and in chromosomes from *S. Nevii* as the writer knew the species in Virginia. Some of Beatty's plants were transmitted to R. T. Clausen of the Bailey Hortorium, where they were accessioned as number C 108. Concerning this sedum, Dr. Clausen, in a letter of May 25, 1937, wrote: "It is a puzzling specimen, which seems most nearly related to *Sedum Nevii*, from which it differs, however, in flower size, shape of leaves, sterile shoots, and markedly in habit"; he gave the plant provisional nomenclatorial designation as a variety of *S. Nevii*.

Accompanied by Dr. Roland M. Harper and Dr. Beatty, the writer, on July 17, 1940, visited the above station in Bibb County.

[1] Supported by Faculty Research Fund of the University of Michigan, Project No. 540.

[2] Wherry, E. T. 1935. The ranges of our eastern parnassias and sedums. Bartonia No. **17**: 17–20.

[3] The writer has collected tetraploid plants of *S. pulchellum* Michx. at Cobden, Union County, and at Sanburn, Johnson County, Illinois. Since juvenile stages of this species are often confused with the *S. Nevii* complex, Illinois records for the latter are most likely based on collections of the former. The *S. Nevii* complex apparently does not extend westward out of the Appalachian Mountains.

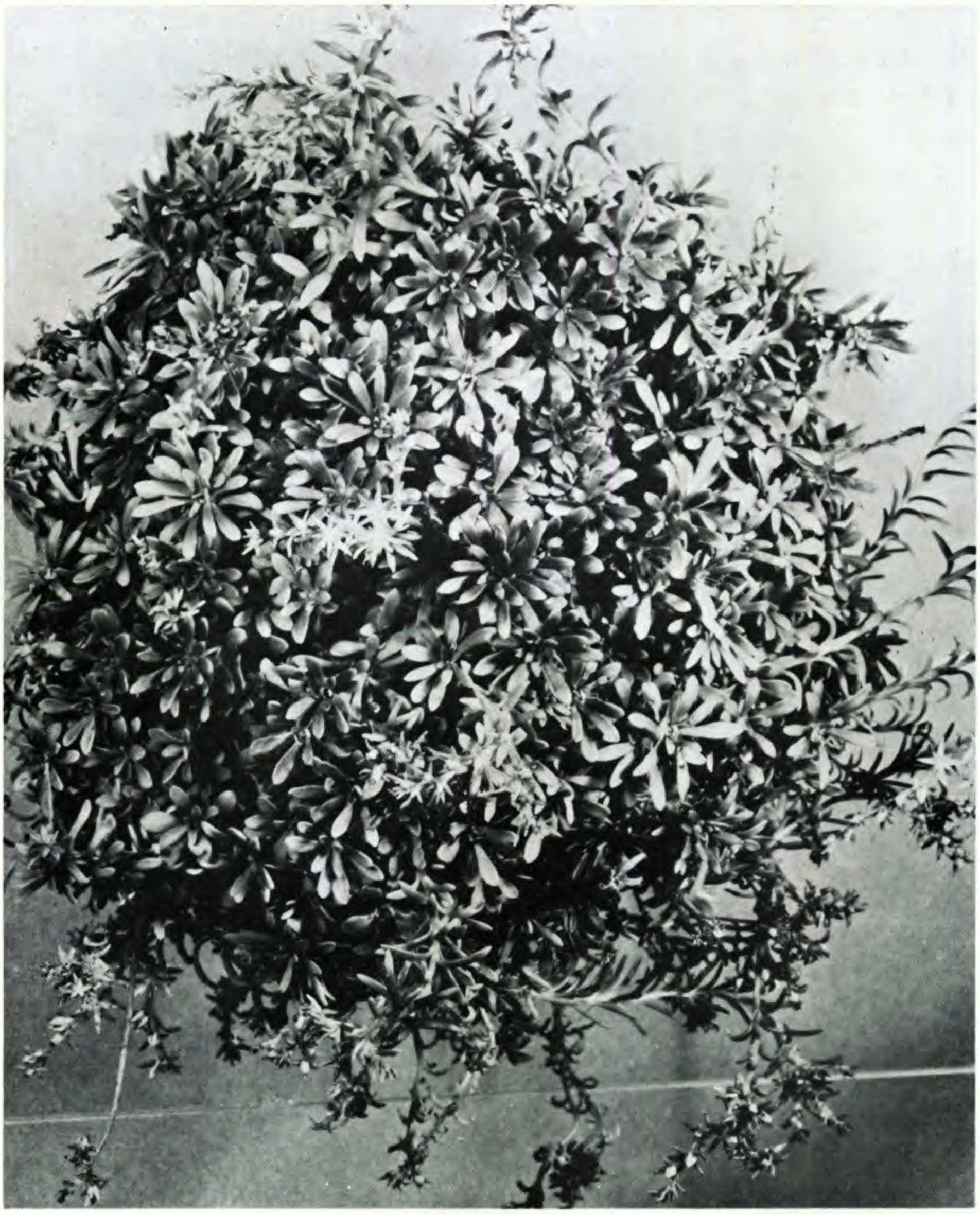
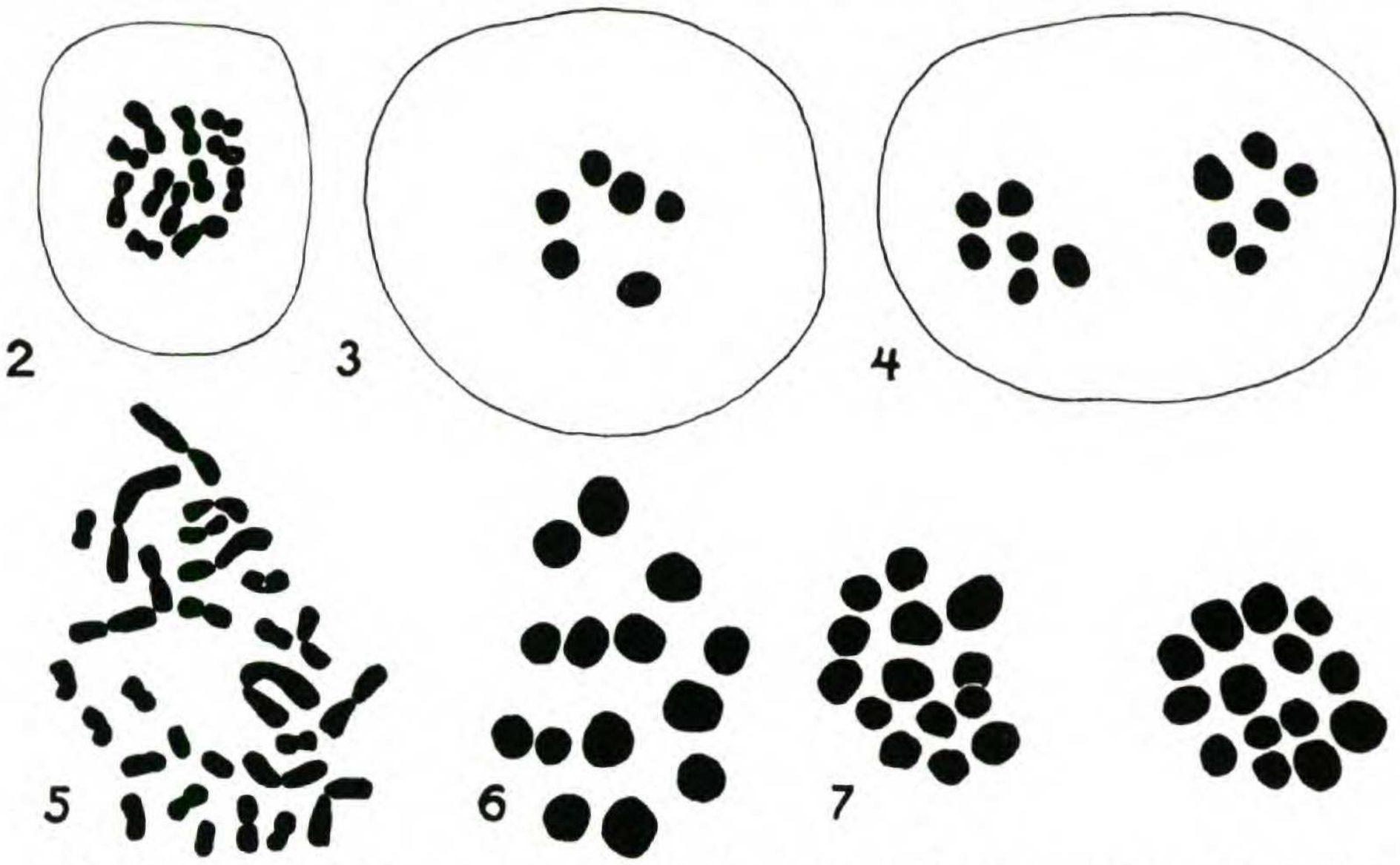


Photo. Dr. Ralph Bennett

FIG. 1, SEDUM NEVII: flowering plant from Alabama, *ca.* 0.5×

There the sedum grew in matted clumps on damp limestone ledges and on mossy tree-trunks to a distance of about two feet above ground. Growing there too were *Acer leucoderme* Small, *Quercus Durandi* Buckl., *Croton alabamensis* Smith, *Asclepias verticillata* L., *Sedum ternatum* Michx., *Smilax* sp., *Euphorbia* sp. and *Vernonia* sp. The following day we found the sedum in Tuscaloosa County, in the first ravine below lock 13 on the west bank of the Warrior River, about eight miles from Tuscaloosa. Associated with the plant, or nearby, were, among other species:



Mitotic and meiotic metaphases of the SEDUM NEVII complex. FIGS. 2–4, Alabama plants: $2n = 12$ in root-tip cell; $n = 6$ at first and second metaphase of microsporogenesis. All *ca.* 1330×. FIGS. 5–7, Virginia plants: $2n=28$; $n=14$. All *ca.* 3330×.

Neviusia alabamensis Gray, *Illicium floridanum* Ellis, *Croomia pauciflora* (Nutt.) Torr., and *Polymnia laevigata* Beadle.

The sedum was transplanted from these two stations to the University of Michigan Botanical Gardens. Specimens at one station looked different from those at the other but after a few weeks in the greenhouse could not be told apart. They flowered during March and April of 1941 (FIG. 1). The chromosomes were counted in aceto-carmine smears of root tips and of anthers: $2n = 12$ (FIG. 2), $n = 6$ at first (FIG. 3) and at second (FIG. 4) metaphase.

The Virginia representatives of this complex are what is usually called *S. Nevii*. Whether the name is properly applied

to them or whether it should be reserved for the species as found in Alabama is a matter for the taxonomist to decide.[1] Plants from three stations in Virginia have been investigated: Boyce, Clarke County; Roanoke, Roanoke County, and Mountain Lake, Giles County. Chromosomes of these plants were examined in smears of roots and anthers: $2n = 28$ (FIG. 3), $n = 14$ at first (FIG. 6) and second (FIG. 7) metaphase. Plants growing on different boulders at Mountain Lake varied somewhat in aspect but became alike under greenhouse culture; no differences in chromosomes were established.

If the Alabama and Virginia plants were euploid in relation to each other, *i. e.*, 12–24 or 14–28 in $2n$-numbers, and the chromosome set in each was morphologically comparable, the writer would not take the initiative, in spite of obvious phenotypic dissimilarities, of saying that two species are present in the *Sedum Nevii* complex. But the $2n$-number relationship is 12–28, and the chromosomes of the two sets are likewise unlike in size-range and in morphology. Two species are represented: many unpublished cytological data on *Sedum* support this conclusion.

To discover in this complex plants with a $2n$-number of 24 would not be surprising: their existence is here postulated; if found, it is expected that they will be referable to the species of which the Alabama plants are members.

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THE DISSEMINATION BY ANTS OF THE SEEDS OF BLOODROOT, SANGUINARIA CANADENSIS

BURTON N. GATES

IN RHODORA[2], reference was made to the observations of Dr. E. B. Southwick[3], who had seen ants carrying the seeds of

[1] *Sedum Nevii* Gray was briefly described by Asa Gray in Mem. Am. Acad. n. s. vi. 373 (1858), from a specimen sent by Rev. R. D. Nevius from along cliffs near Tuscaloosa, Alabama. In 1860 Chapman, Fl. So. U. S. 150, acknowledging in his preface the coöperation of Gray, gave a fuller description of *S. Nevii* from the Tuscaloosa material of Nevius; and in Gray, Man, ed. 5: 172 (1867) Gray included the plant of Salt Pond Mountain, Virginia under *S. Nevii*. True *S. Nevii* is, therefore, the Alabama plant.—EDS.

[2] BURTON N. GATES. Dissemination by Ants of the Seeds of *Trillium grandiflorum*. RHODORA, Vol. 42, No. 479, 1940, p. 196.

[3] As told by Dr. William Morton Wheeler. Ants, 1910, p. 315.